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Development of a Model System In Vitro for Studying Carcinomas.

Over 80% of human cancers, particularly those of the lung, are carcinomas arising from normal epithelial cells. Nevertheless, most of the in vitro systems presently employed to study carcinogenesis use mesenchymal or fibroblast cells and transformation is defined by the production of sarcomas. This investigator has been attempting over the past two years to develop a model system in tissue culture for studying epithelial cell transformation. It seems reasonable that epithelial cells will better reflect the malignant changes occurring in vivo, resulting in the production of carcinomas. Moreover, once an epithelial line is established, various contaminants in the atmosphere can be checked for their carcinogenic potential.

In this laboratory, attempts are being made to obtain a line of mouse epithelial cells which is susceptible to transformation by viruses and chemicals. Studies will be made of the steps involved in epithelial cell transformation and the combined effects of chemicals and viruses on this transformation.

The experience and knowledge gained in the cultivation and study of mouse epithelial cells will be used for research on human epithelial cell transformation.

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